User manual
The Quarter Hour Watch II

with timer function

ABILIA
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Rev F

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Introduction

The Quarter Hour Watch II comprises both the usual Quarter Hour Watch-function and a Timer-function.

Both functions show time distance. They are based on the so-called “Quarter Hour Watch principal”, see below.

The difference between the two functions is that the Quarter Hour Watch-function shows the time distance to a certain point of time, for example how much time there is left to 15:30, while the Timer-function shows time distance to the end of a certain period, for instance the time left of 60 minutes. The Timer-function is accordingly what one in general refers to as an “egg-timer”.

In order to make the difference plain for the users one should use white watchcases for the Quarter Hour Watch-function and grey watchcases for the Timer-function.

The Quarter Hour Watch principle

The Quarter Hour Watch principle means that the time distance to an activity/event is shown as dots (=filled circles) in a vertical row left of the symbol representing the activity/event. Each dot represents 15 min. The dots disappear *from top to bottom.* Consequently, the picture shows that there are 45 minutes (actually 31 to 45 min) left before dinner.

Many persons with developmental disabilities cannot handle a normal watch in a satisfactory way. One can often read the watch face, but not make a meaningful conclusion of the information, especially not being able to figure out how much time there is left to a certain point of time. How long must I wait until the bus arrives? When does the TV-program start? Etc.

Such estimations are based on a relation between two points of time. The present point of time, which can be read from a watch, compared with the point of time for the event one is waiting for. That estimation presupposes that one has the knowledge of both these points of time and the ability to handle the relation in order to reach a meaningful understanding of the time distance (=the length of the time period until the event occurs).

Normally we do this with a relatively complex arithmetical operation. We subtract the point of time we read from the watch from the point of time we would like to orientate us against. For example: “Half past two from twenty minutes to four = seventy minutes, slightly more than an hour”. By means of our experience we can estimate the size of this time distance expressed in hours and minutes.

Persons with developmental disabilities have great difficulty in performing that subtraction and also difficulty in getting any feeling for size of the time distance expressed in hours and minutes.

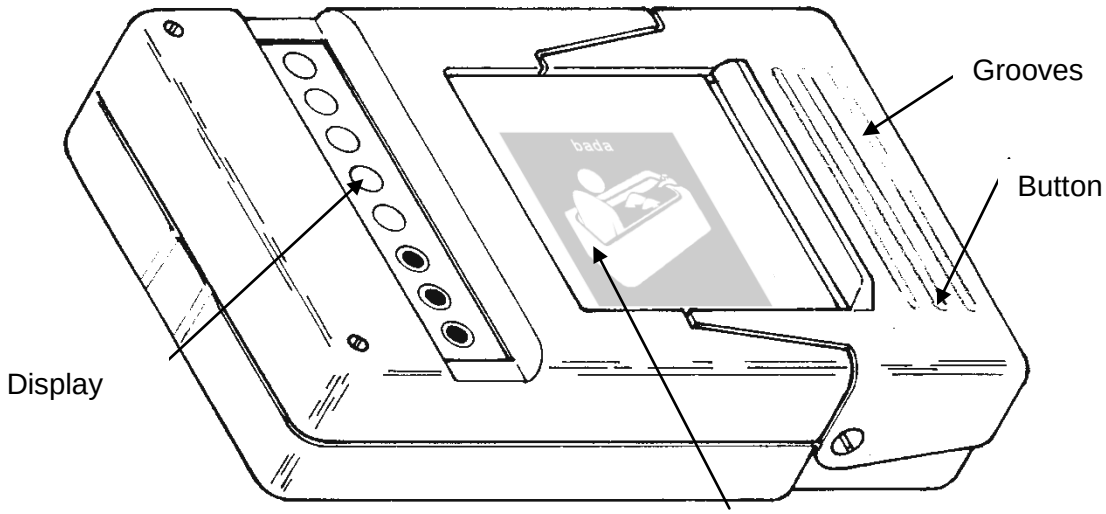
- The Quarter Hour Watch calculates the time distance so the user does not have to subtract time values.
- The time distance is shown as a number of clearly separated dots in order to make it easy for the user to build up his experience of time values without being able to handle hours and minutes.
- Each dot represents a quarter of an hour. A unity that will make many everyday time periods representable by a reasonable number of dots.

- Pictures can symbolize the activities/events against which the user would like to orientate himself.
- When it is time for the set event, the Quarter Hour Watch beeps and flashes and functions as a reminder.

The “invisible” time becomes visible and apprehensible almost like an hourglass where a sinking level shows the flow of time.

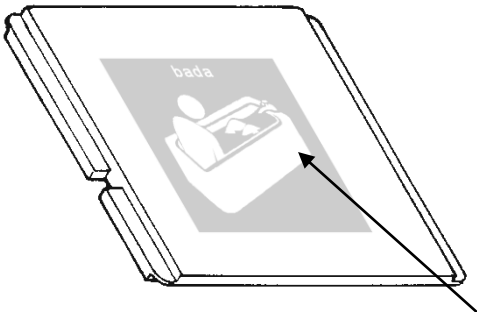
The Quarter Hour Watch

Quarter Hour Watch with Picture card

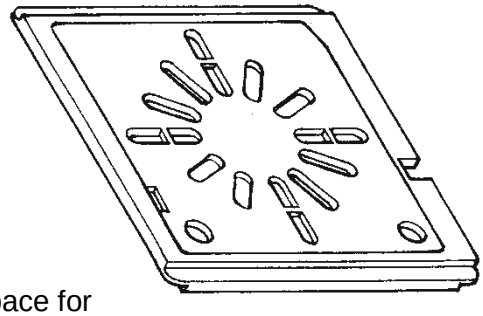


Picture card

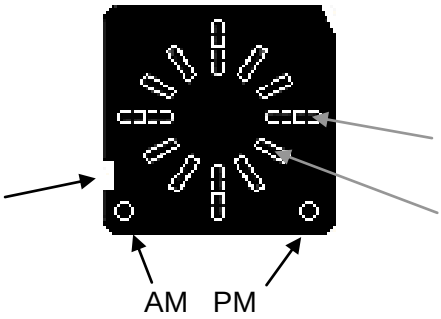
Picture card, front side



Back side with watch face inserted



Disposable watch face



Watchcase = Picture card without the watch face

The Quarter Hour Watch-function

The Quarter Hour Watch contains a built-in clock. When a coded Picture card is put in the Quarter Hour Watch the number of quarters of an hour left until the coded point of time is shown.

The display always shows 8 circles (when a Picture card is in place). The number of remaining quarters of an hour left until the coded event is indicated by filled circles (dots).

If there are more than two hours left before the coded event, all 8 circles are filled. When there is one hour and 45 minutes left, 7 circles are filled. When there is one hour and 30 minutes left, 6 circles are filled, etc.

When the coded event occurs, the Quarter Hour Watch beeps and the dots flash intensely for 1 minute. The dots continue to flash for 15 minutes. Thereafter, the Quarter Hour Watch shows that the point in time is passed by way of a dot slowly travelling over the display, i.e., if one inserts a Picture card coded with a passed point of time, a dot slowly travels over the display. The point of time is considered passed in 12 hours, after that it is before that point of time the next day.

The Picture card may continuously be placed in the Quarter Hour Watch showing the flow of time before the coded point in time occurs.

It is a good habit to place the Quarter Hour Watch in its stand (available as an accessory) when one is at the same place for longer periods of time, at home or at work.

Coding of the Quarter Hour Watch-function

It is strongly recommended to use white watchcases to prepare Picture cards for the Quarter Hour Watch-function.

Attach a suitable picture to represent the activity/event, it may be a sticker, a photo or a drawn picture. One can also draw/write directly on the watchcase.

The desired point in time is coded by pressing out segments from the black plastic disposable watch face so it looks like the desired point of time on a normal watch face.

The point in time shall be coded as it is written, i.e. 14:45 “fourteen forty-five” (not “a quarter to three”). Start by pressing out the segment for morning “AM” or the segment for afternoon “PM” at the bottom.

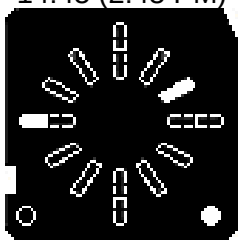
Then press out the segment for “hour”, e.g. “fourteenth hour”, finally press out the segment for desired quarter of an hour, e.g. “forty-five”.

In order to achieve the Quarter Hour Watch-function **three segments** should be pressed out.

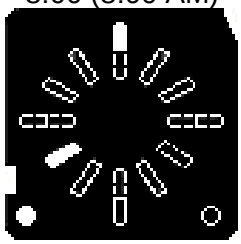
Then insert the coded watch face into the watchcase. Press firmly all the way around.

Examples of watch faces coded to certain points of time

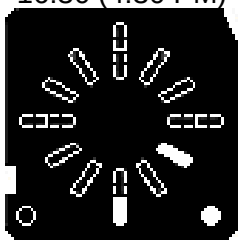
14:45 (2:45 PM)



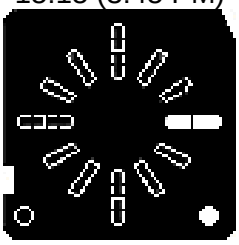
8:00 (8:00 AM)



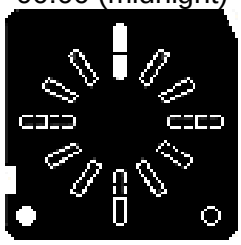
16:30 (4:30 PM)



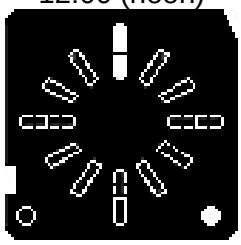
15:15 (3:45 PM)



00:00 (midnight)



12:00 (noon)



Check of coded point in time

The coding can be checked in the following manner.

Insert the Picture card in the Quarter Hour Watch so that a number of dots are visible (if no dots or circles are visible at all, the coding is incorrect). Then remove the Picture card. For a short period of time the coded point of time, e.g., 14:45, is visible in the upper edge of the display.

It is recommended to always check after preparing a new Picture card.

Re-coding of a Picture card

It is very important that the coded point of time is correct. If an activity has changed time, one has to re-code the Picture card.

a. Snap out the watch face from the watchcase by bending the Picture card or by putting a screwdriver in the notch.
b. Code a new watch face by pressing out three segments as described above.
c. Put the new coded watch faces in the watchcase. Press firmly all the way around.

The white watchcases can be re-used an unlimited number of times.

If the Picture card shall represent some other activity/event, the old picture is just removed or covered by a new picture.

The Timer-function

The Timer-function is an “egg-timer” where the user, in an easy way, can set the time for activities like; brushing teeth in 3 minutes, boiling of spaghetti in 10 minutes, bathing in 50 minutes etc.

Remaining time is shown in accordance with the “Quarter Hour Watch principle” as described above, i.e., in steps of 15 minutes.

It is possible to set the Timer-function in 1-minute steps between 1 and 25 minutes and in 5-minutes steps between 25 and 120 minutes.

Note!! If one takes out a Timer card and then puts it back in the QuarterHour Watch it starts the countdown from the beginning.

Coding of the Timer-function

In order not to confuse the user one should better use the grey watchcases for Picture cards for the Timer-functions (= Timer card).

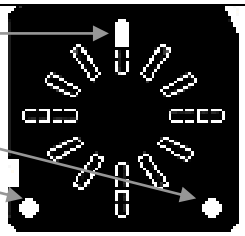
The Timer-function is activated **by pressing out both the AM- and PM-segment** along with additional two segments to code the desired time period (see below), i.e., on the Timer cards **four** segments should be pressed out.

The Quarter Hour Watch II is delivered with 3 pre-coded Timer cards. They are coded to 15 min, 30 min and 1 hour and labelled with 1, 2, and 4 hourglasses.

The coding of Timer cards is described below.

1-12 minutes in 1-minutes steps, i.e., 1, 2, 3, ….12 minutes

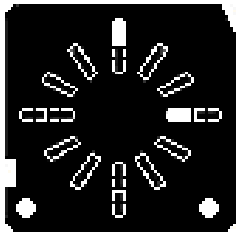
1. Press out the full hour segment.
2. Press out both AM and PM

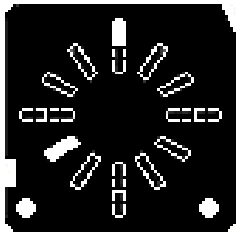


3. Press out desired inner segment.

3 minutes *8 minutes*

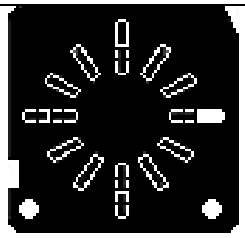
See examples:





13-24 minutes in 1-minutes steps, i.e. 13, 14, 15, … 24 minutes

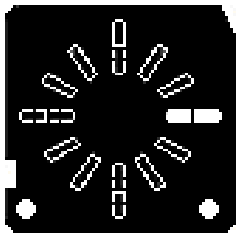
1. Press out the “15 minutes past”-segment.
2. Press out both AM and PM

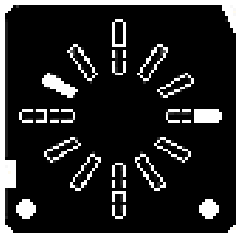


3. Press out desired inner segment.

15 minutes *22 minutes*

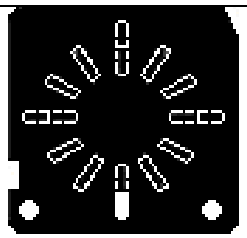
See examples:





5-60 minutes in 5-minutes steps, i.e. 5,10,15, … 60 minutes

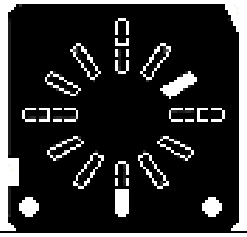
1. Press out “30 minutes after”-segment.
2. Press out both AM and PM



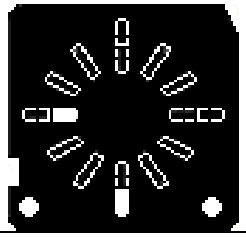
3. Press out desired inner segment.

See examples:

10 minutes

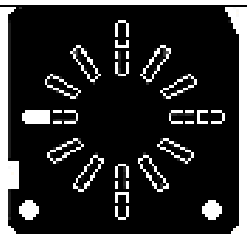


45 minutes



65-120 minutes in 5-minutes steps, i.e. 65, 70, 75, … 120 min

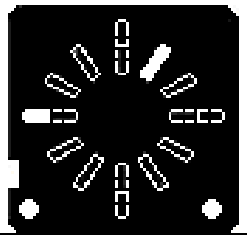
1. Press out “45 minutes past”-segment.
2. Press out both AM and PM



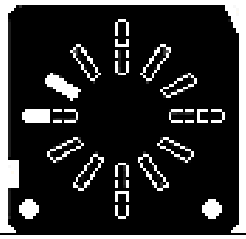
3. Press out desired inner segment.

See examples:

65 minutes



110 minutes

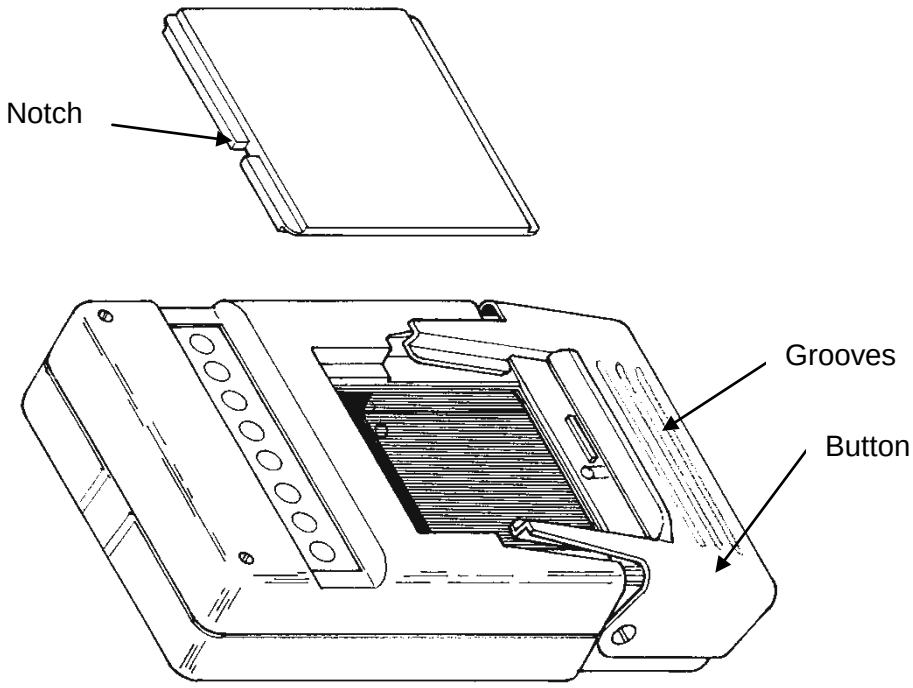


Inserting and removing Picture cards

The Quarter Hour Watch should be used with the large button to the right and the vertical display to the left.

The Picture card is put in the picture card compartment with the black watch face facing down and the little notch (see picture) to the left. Press down the picture card until it snaps into position. The Picture card is now safely in place.

To take out the Picture card, press the large button (the grooves shows where to press). If one presses sharply, the Picture card jumps up and stays above, making it easy to lift off. A simpler way of taking out the Picture card without requiring a sudden press is to hold the Quarter Hour Watch vertically so that the Picture card falls out by its own weight.

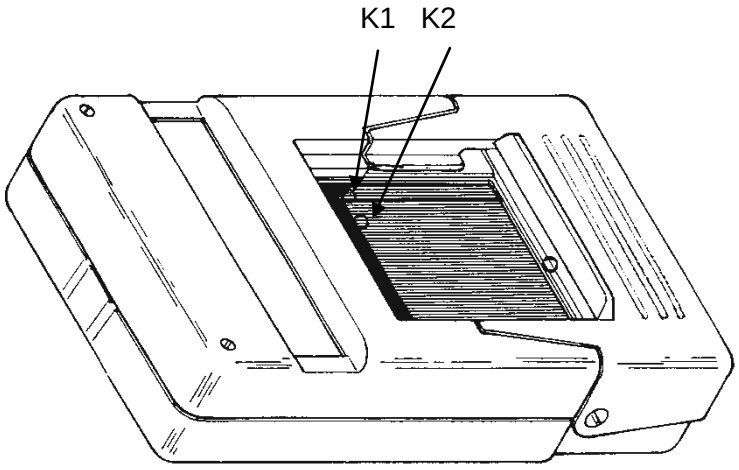


Checking and adjusting the built-in clock

Note!! The Quarter Hour Watch must be adjusted for summer or winter time (daylight saving time).

Checking and adjusting the built-in clock is done with two small switches, K1 and K2, placed below the coverlid, see picture.

Press the switches with some narrow object; a bent paperclip, match, pen nib, small screw, or similar. The object should not be sharp as an awl.



Checking time and date

(It is not possible to set the date in Quarter Hour Watches with serial numbers below 30000. At the time of changing from winter time to summer time, or vice versa (i.e., starting or ending daylight saving time), the time of the built-in clock needs therefore to be adjusted.)

Press button K1. In the upper part of the display, time and date of the built-in clock are shown in the following sequence.

- Time (e.g., 19:30)

  In Quarter Hour Watches with a serial number above 30 000, the information below is shown.

- Year (e.g., 2006)

- ”1-12” (=month) is shown for appr. 2 sec, and then set month is shown (e.g., 09)

- ”1-31” (=day) is shown for appr. 2 sec, and then set month is shown (e.g., 18)

After this the display goes out and the Quarter Hour Watch returns to normal function.

In the example above, the built-in clock was set to 7.30 p.m., 18 September 2006.

Adjusting the built-in clock

a. Press button K1 so the current setting is displayed in the upper part of the display.

b. When the time is shown in the display, press button K2 and keep it pressed until the colon starts to flash (after appr. 5 sec).

c. Release button K2. The hour digits start flashing. Press K2 to step forward to the correct hour. When correct hour is set, press button K1. The minute digits start flashing. Press K2 to step forward to the correct hour.

For Quarter Hour Watches with serial numbers below 30 000, complete the setting by pressing K1.

For Quarter Hour Watches with serial numbers above 30 000, continue with the following.

d. Press button K1. The year digits start flashing. If they are not correct, step forward to the correct year by pressing button K2. (It is only possible to step forward. After year 2036, the loop starts again with 2006.)

e. Press button K1. ”1-12” is shown for a moment followed by flashing month digits. If they are not correct, step forward to the correct month by pressing button K2.

f. Press button K1. ”1-31” is shown for a moment followed by flashing day digits. If they are not correct, step forward to the correct day by pressing button K2.

g. Press button K1. The complete setting is shown automatically (e.g., 19:30 – 2006 – ”1-12” – 09 – ”1-31” – 18) and the Quarter Hour Watch returns to normal function.

Use of the Quarter Hour Watch outdoors

The Quarter Hour Watch is well suited for use outdoors. However, one should keep it in a bag or pocket when it is not being used.

It is **not** recommended to let the Quarter Hour Watch be left outdoors over-night or in the rain.

If the Quarter Hour Watch has been soaked with water or exposed to dampness in any way, the batteries should be removed and everything dried out properly before the batteries are put back and the Quarter Hour Watch is used again.

At extremely high temperature (+40°C), e.g., if the Quarter Hour Watch has been lying in direct sunlight in several hours, the display contrast can be impaired to where the empty circles look filled, i.e., like dots, if you look at the Quarter Hour Watch a little bit from the side.

At extremely low temperature (-20°C), e.g., if the Quarter Hour Watch has been lying very cold for several hours, the display contrast also may be impaired and somewhat difficult to read.

Cleaning of the Quarter Hour Watch

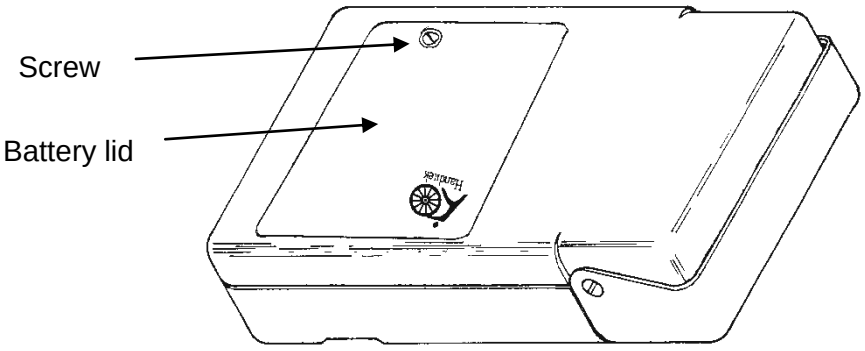
The Quarter Hour Watch may be cleaned with a firmly twisted damp swab and a mild dishwasher detergent. The Quarter Hour Watch must not be flushed with water.

Exchange of batteries

The batteries (alkaline) are expected to last at least 7 months. When the batteries are running out, a small battery symbol is shown at the bottom of the display, and the Quarter Hour Watch beeps several times when a Picture card is put in place.

It is recommended that the batteries always are exchanged when adjustment is made for Standard and Daylight Savings time, in order to avoid the batteries running out in an inappropriate situation.

The batteries are three R03 (AAA) 1,5V standard batteries. Good quality alkaline batteries are recommended.



a. Open the battery lid on the rear side by unscrewing the screw. Remove the lid.
b. Remove the old batteries and put in new ones. The polarity is marked on the printed circuit card visible through the narrow opening at the bottom of the battery compartment. **All the batteries shall be put in the same direction.**
c. Replace the battery lid and screw in the screw.

d. Note! Check the time setting by pressing K1. If necessary adjust the built-in clock as described in last chapter. Bear in mind that the clock must be adjusted for Standard and Daylight Savings time.

Some principles for the introduction of the Quarter Hour Watch

The Quarter Hour Watch gives the user possibilities to develop the use in his own pace and according to his own ability.

It is therefore important to not overload the users contact with the Quarter Hour Watch with many explanation and instructions.

The role of the helper (personal or relative) is first to introduce the aid and thereafter serve as support. The helper should give assistance when it is requested or when special needs come up, for instance, when the user wants Picture cards for new activities/events, when it is time to shift between Standard and Daylight Savings time or to exchange batteries, etc.

As a first step, it is normally appropriate to use the Quarter Hour Watch as a reminder. The Quarter Hour Watch beeps at a chosen point of time. This function is concrete and easy to explain.

Experience has shown that most people who use the Quarter Hour Watch regularly in this way, after a while notice the row of circles and dots and start on their own to wonder what it means. This means the start of a learning process which, after varying periods of time – from days until weeks or months – often leads to the user learning on his own how to use the information of remaining time shown on the Quarter Hour Watch. This learning process implies a radical development of the user's concept of time, which not can be achieved with instructions and explanations.

New Quarter Hour Watch users often have the experience of helpers as the source of information regarding time for activities/events: "Now its time to go to the bus!", "Now the game on TV starts!", etc.

The Quarter Hour Watch can, therefore, already function just as a reminder to give the user great improvements in security and independence.

It is very important that the user from the start feels that it is he who has control over the Quarter Hour Watch.

Among other things, it is important that the first points of time to be introduced are points of time important to the user himself. It is equally important that the user himself activates the Quarter Hour Watch by choosing the Picture card and putting it in place.

It is in this way that the interest in its use is established, as well as an interest to further develop the ability to use the capabilities of the Quarter Hour Watch.

Bear in mind that the learning difficulties that persons with developmental disabilities have first concern situations demanding interpretation of linguistic instruction correctly. To learn by own experience gives, in general, far fewer problems.

There is always a risk that oral instructions are misunderstood and thereby lead to unnecessarily prolonged learning time.

One example is the use of the words "quarter of an hour" to designate the dots on the display. For the new user, the display simply shows a row of dots and circles, not as symbols for the abstract concept of time. It is the daily experience of how the numbers of "dots" vary in different situations that develops the concept of time as shown by the Quarter Hour Watch, a concept of time where the time unit is "dots", not minutes, quarter of hours or hours.

Below are some more detailed proposals of how the introduction might be carried out.

1. Inserting and removing a Picture card

Show how the Picture card should be inserted and removed.

The easiest way of inserting a Picture card is to place the QHW on a flat surface, placing the Picture card in the Picture card compartment with the notch in correct place, and then pressing the Picture card until it snaps into place.

The easiest way of removing the Picture card is to press the button when the Quarter Hour Watch is held vertical with the front side facing slightly downwards. The Picture card will then fall out by its own weight

Let the user practice until it works well, especially to take out the Picture card.

2. Using the Quarter Hour Watch to keep track of an event

Prepare a Picture card for an event the user is keen to keep, for example a coffee break or a TV-program.

Put the Picture card in the Quarter Hour Watch and say that this is a watch, which will beep when it is time for the event symbolized on the Picture card.

Explain that the beeping stops immediately when the Picture card is removed.

Point at the display and mention that one can see how much time there is left.

Let the user bring the Quarter Hour Watch to his normal activities and expand its use at his own pace. Prepare Picture cards for new activities/events as soon as the user asks for it, and support its use rather passively.

3. To separate between future and past events.

Make sure there are Picture cards for events both backwards and forward in time. Let the user put in Picture cards of both kinds. Look at the display and explain. Repeat a number of times. Ask the user to give you a Picture card of each type.

Point out that one always must check so that the dots do not move if there is a time one wants to keep. If a dot is moving, one is too late.

4. To use the Timer-function

The Timer-function is a very simple to use “egg-timer” for persons accustomed to the ”Quarter Hour Watch principle”.

It is recommended that the Timer-function being introduced after the user controls the Quarter Hour Watch’s functions satisfactorily.

In order not to mix the functions, one should use Picture cards with different colours, white Picture cards for the normal Quarter Hour Watch-function and grey for the Timer-function.

The Timer-function is suitable for activities that have a certain duration, but are not connected to a certain point of time; ”boiling spaghetti, time to shower”, ”time to play with the computer”, etc.

Technical data/ Accessories

Enclosed accessories

Quarter HourWatch (black, blue, red or silver)
3 LR03 Alkaline batteries
Case with shoulder strap and belt
20 black disposable watch faces for coding
5 white watchcases for Picture cards for the Quarter Hour Watch-function
2 grey watchcases for Picture cards for the Timer-function
3 coded Timer cards (15 min, 30 min and 1 hour)

Other accessories/ spares

Belt case
Stand (birch)
Bag with 10 white watchcases
Bag with 10 grey watchcases
Bag with 50 black watch faces
Binder for Picture cards

Technical data

Power supply	3 LR03 Alkaline batteries
Temperature range	0°C to 40°C
Size	130 x 78 x 27 mm
Weight	170 g